

What Is Claimed Is:

1. A method of measuring the internal structure (packing structure or dispersion condition of particulate material) of a composite material filled with ceramic particles having an irregular matrix by observations based on its optical anisotropy, which comprises mixing particulate material as raw material with a liquid material to obtain a composite material filled with ceramic particles, making visible the internal structure (packing structure or dispersion condition of particulate material) of the composite material by utilizing the photoelasticity based on local rearrangement of liquid material molecules or difference of refractive indices of the particulate material and liquid material, and then observing the structure.

2. The method of measuring the internal structure of a composite material filled with ceramic particles according to a claim 1, wherein the particulate material is an  $\text{SiO}_2$  based material or  $\text{AlN}$  based material.

3. The method of measuring the internal structure of a composite material filled with ceramic particles according to claim 1, wherein the liquid material is a resin based material.

4. Equipment for evaluation used in the method of measurement claimed in any of claims 1 to 3, which comprises as structural elements two polarizing elements, a light source or electron beam source, means for observing a transmitted image, and means for arranging a sample, wherein a thin strip sample for transmission observation is arranged between the two polarizing elements, monochromatic light polarized by the first polarizing element is directed onto the sample, and subjected to double refraction at optically anisotropic regions such as coagulations in the sample, then re-polarized by the second polarizing element, and observed by the transmitted image observation means to evaluate optical behavior thereof such as diagonally opposite positions or interference.

5. The evaluation equipment according to claim 4, wherein the sample is a composite material filled with particles converted to the form of a thin strip of a thickness allowing monochromatic light from a light source or electron beam source to be transmitted through the composite material.

6. The evaluation equipment according to claim 4, wherein halogen light is directed on the sample.